

**UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

HEADWATER RESEARCH LLC,

Plaintiff,

v.

SAMSUNG ELECTRONICS CO., LTD. and
SAMSUNG ELECTRONICS AMERICA,
INC.,

Defendants.

Case No. 2:23-cv-00103-JRG-RSP

JURY TRIAL DEMANDED



**PLAINTIFF HEADWATER RESEARCH LLC'S
OPPOSITION TO SAMSUNG'S *DAUBERT* MOTION AND MOTION TO STRIKE
EXPERT TESTIMONY OF DR. ANDREAS GROEHN**

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
II.	LEGAL STANDARDS.....	1
III.	OVERVIEW OF CONJOINT SURVEYS AND ANALYSIS	2
IV.	DR. GROEHN’S CONJOINT SURVEY ANALYSIS.....	2
A.	Dr. Groehn’s goal was to determine the economic value of increased battery life in mobile phones.	2
B.	Dr. Groehn used a “pilot” survey to determine the “decoy” attributes for his conjoint survey.	3
C.	Dr. Groehn’s conjoint survey and subsequent regression analysis estimate demand for increased battery life in Samsung’s mobile phones.....	4
D.	Dr. Groehn’s competition model estimates the incremental profit Samsung would experience at different levels of increased battery life.....	4
V.	ARGUMENT	5
A.	Conjoint survey data can serve as a basis for subsequent economic calculations, including incremental profit derived from increased battery life.	5
B.	Given his goals and the subsequent use of data resulting from his survey and analyses, Dr. Groehn’s survey is sufficiently tied to the facts of this case.....	8
C.	Dr. Groehn’s survey adequately defined “battery life.”	11
VI.	CONCLUSION	13

TABLE OF AUTHORITIES

Cases

<i>Apple, Inc. v. Samsung Elecs. Co.</i> , No. 12-cv-00630, 2014 WL 794328 (N.D. Cal. Feb. 25, 2014).....	10
<i>Daubert v. Merrell Dow Pharms., Inc.</i> , 509 U.S. 579 (1993).....	1, 7, 10, 11
<i>Earl v. Boeing Co.</i> , No. 4:19-cv-507-ALM, 2021 WL 3140545 (E.D. Tex. July 26, 2021).....	1, 2, 3, 5, 7, 8
<i>Estech Sys. IP, LLC v. Carvana LLC</i> , No. 2:21-cv-00482-JRG-RSP, 2023 WL 2934920 (E.D. Tex. Apr. 13, 2023)	6, 10
<i>Fractus, S.A. v. Samsung Elecs. Co., Ltd.</i> , No. 6:09-cv-208-LED-JDL, 2011 WL 7563820 (E.D. Tex. Apr. 29, 2011).....	11
<i>Fujifilm Corp. v. Motorola Mobility LLC</i> , No. 12-cv-03487, 2015 WL 1737951 (N.D. Cal. Apr. 8, 2015).....	8
<i>Johnson v. Glock, Inc.</i> , No. 20-cv-008807, 2024 WL 4479863 (N.D. Cal. Sept. 30, 2024).....	8
<i>Odyssey Wireless Inc. v. Apple Inc.</i> , No. 15-cv-01735, 2016 WL 7644790 (S.D. Cal. Sept. 4, 2016)	2, 5, 8, 12
<i>Puga v. RCX Sols., Inc.</i> , 988 F.3d 285 (5th Cir. 2019)	2
<i>Tyler v. Union Oil. Co. of Cal.</i> , 304 F.3d 379 (5th Cir. 2002)	2
<i>Unwired Planet, LLC v. Apple Inc.</i> , No. 14-cv-04134, 2017 WL 589195 (N.D. Cal. Feb. 14, 2017).....	11
<i>VirnetX Inc. v. Cisco Sys., Inc.</i> , 767 F.3d 1308 (Fed. Cir. 2014)	10
<i>Visteon Global Techs., Inc. v. Garmin Int'l, Inc.</i> , No. 10-cv-10578, 2016 WL 5956325 (E.D. Mich. Oct. 4, 2016).....	7, 8

Rules

Federal Rule of Evidence 702.....	1
-----------------------------------	---

I. INTRODUCTION

Samsung's motion to exclude or strike Headwater's survey expert Dr. Andreas Groehn should be denied in its entirety.

First, Samsung is incorrect that conjoint survey data cannot be used as part of an economic analysis to estimate the value of features in complex products. This Court and many others have accepted the use of conjoint surveys in this context, including specifically for smartphones, and such use is also supported by the academic literature.

Second, Dr. Groehn's general approach and survey questions, which were focused on increased battery life, is sufficiently tied to the facts of this case, given that increased battery life is a primary technical benefit of the patents-in-suit. Dr. Groehn also used case-specific facts in his subsequent economic analysis, including sales data for the accused products.

Third, many of Samsung's criticisms go to the weight of Dr. Groehn's testimony rather than its admissibility, such as those directed to the design of his survey, including the way in which he worded survey questions and the choice of attributes (product features) he included in the survey.

II. LEGAL STANDARDS

Federal Rule of Evidence 702 "assign[s] to the trial judge the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 597 (1993). "At this point in the proceedings, district courts must simply ensure the proposed expert testimony meets the *Daubert* threshold of reliability—the accuracy of the actual evidence is tested before the jury." *Earl v. Boeing Co.*, No. 4:19-cv-507-ALM, 2021 WL 3140545, at *2 (E.D. Tex. July 26, 2021) (quotation marks omitted). "Any objections to [Groehn]'s expert report unrelated to reliability or relevance go to 'the weight'

of his opinions ‘rather than [their] admissibility.’” *Id.* (quoting *Puga v. RCX Sols., Inc.*, 988 F.3d 285, 294 (5th Cir. 2019)) (second alteration in original). Of particular relevance here, “questions of survey methodology ... go to the weight of [Groehn]’s testimony, not its admissibility.” *Id.* at *7 (citing *Tyler v. Union Oil. Co. of Cal.*, 304 F.3d 379, 392 (5th Cir. 2002)); *see also Odyssey Wireless Inc. v. Apple Inc.*, No. 15-cv-01735, 2016 WL 7644790, at *10 (S.D. Cal. Sept. 4, 2016).

III. OVERVIEW OF CONJOINT SURVEYS AND ANALYSIS

“Conjoint analysis is a statistical technique capable of using survey data to determine how consumers value a product’s individual attributes. It does so by asking questions that force survey respondents—actual or potential consumers—to make trade-offs about features [also referred to as attributes], determining the value placed on each feature based on the trade-offs made by respondents, and permitting simulations as to how the market will react to the various feature trade-offs being considered. ... Essentially, conjoint analysis is a back-door decompositional approach to estimating people’s preferences for features rather than an explicit, compositional approach of simply asking respondents to rate the various features. Conjoint analysis has been used for decades as a way of estimating the market’s willingness to pay for various product features.” *Earl*, 2021 WL 3140545, at *4 (citations omitted, cleaned up). “Conjoint Analysis is ideally suited to model the demand for products in different configurations and to determine the economic value of attributes that cannot be observed in the market.” Ex. A (Groehn Report) ¶25.

IV. DR. GROEHN’S CONJOINT SURVEY ANALYSIS

A. Dr. Groehn’s goal was to determine the economic value of increased battery life in mobile phones.

Dr. Groehn is an undisputedly qualified survey expert, with extensive experience with both conjoint surveys and economic analysis, including in cases involving smartphones. Ex. A at Exhibit B; Ex. 1 (May 13, 2024 Groehn Depo.) at 220:5-19. Applying that expertise to the task at

hand, his goal was “to measure the economic value of increased battery life in mobile phones designed and manufactured by [Samsung].” Ex. A ¶9. As detailed below, Headwater’s damages expert Stephen Dell uses Dr. Groehn’s results in combination with, among other information, technical analysis from Headwater’s technical expert Erik de la Iglesia directed specifically at determining the battery savings attributable to the accused functionalities, to determine a per unit royalty. *See infra* § V.B.

B. Dr. Groehn used a “pilot” survey to determine the “decoy” attributes for his conjoint survey.

Dr. Groehn first used a pilot survey in order “to determine relevant decoy attributes (attributes other than the Feature of Interest [battery life]) to use in the Conjoint Survey.” Ex. A ¶31. It is necessary to use decoy or dummy attributes, also referred to as distracting factors, in a conjoint survey in order to avoid “focalism bias,” which “is a condition that exists when a survey fails to contain distracting factors to the extent that the factor being targeted—the purpose of the survey itself—is easily discovered by the survey taker, leading to unreliable results.” *Earl*, 2021 WL 3140545, at *6. To avoid conjoint survey participants knowing that the battery life was the attribute of interest, Dr. Groehn conducted a pilot survey with seventeen mobile phone attributes, in which he asked respondents to select all attributes that were important to them and assign a total of one hundred points across the attributes they selected. Ex. A ¶¶41-42; *see also generally id.* ¶¶30-68. This provided him with weighted attribute preferences, indicating which of the seventeen attributes were the most important to pilot survey respondents. *Id.* ¶68. Price was the most important attribute, followed by the attribute of interest (battery life), brand, storage capacity, camera performance, screen size, processing speed, screen resolution, body size, and water resistance, in that order. *Id.*

C. Dr. Groehn’s conjoint survey and subsequent regression analysis estimate demand for increased battery life in Samsung’s mobile phones.

Dr. Groehn used the results of his pilot survey to design his conjoint survey. He explicitly presented price and six other attributes in his conjoint survey: brand, storage capacity, battery life, camera, water resistance, and screen size, with all in this list being decoy attributes except the attribute of interest, battery life. *Id.* ¶¶69-81. In addition, in line with his pilot survey results, his conjoint survey also provided information to respondents on the processor and screen type. *Id.* ¶¶71, 92. In the survey, Dr. Groehn defined each attribute for respondents and indicated the “levels” or options offered for each attribute. *Id.* ¶¶93-96; *see also id.* ¶81 (Table 4). For example, he defined “battery life” as “the length in time in hours that a device can operate under battery power after being fully charged,” and set forth three levels: (1) “Standard battery life”; (2) “Battery life increased by 5% under normal usage”; and (3) “Battery life increased by 10% under normal usage.” *Id.* ¶93 (Figure 17). For the “price” attribute, he presented five “price points” for each brand (*id.* ¶81 (Table 4)), tied to real-world prices (*id.* ¶80 n.47-n.54). Respondents were then shown fifteen screens with two smartphone profiles on each screen, with levels of the seven attributes varied, and asked to select which smartphone profile they prefer. *Id.* ¶¶97-99. Respondents were then asked if they would purchase the option they selected on each screen. *Id.* ¶101; *see generally id.* ¶¶88-126 (further describing conjoint survey design and methodology).

“The raw survey data were processed in Sawtooth, a software program widely used in the analysis of conjoint surveys, ...[o] estimate the probability that respondents would purchase a particular choice set.” *Id.* ¶128. At a high level, his “[c]onjoint analysis decomposes the holistic judgments of each survey respondent into a part-worth for each of the attribute levels.” *Id.* ¶129.

D. Dr. Groehn’s competition model estimates the incremental profit Samsung would experience at different levels of increased battery life.

Using his computed “part-worths,” Dr. Groehn then applied a monopolistic competition

model to estimate the incremental profit Samsung would enjoy at differing levels of increased battery life. *See id.* ¶¶135-146. In this model, he assumed “Samsung sets prices to optimize profits” because this is a “standard practice in economics” and “a standard assumption in economic textbooks.” *Id.* ¶137 & n.80. He also assumed Samsung’s marginal costs are constant with and without increased battery life “because at relatively low changes in volume marginal costs are unlikely to change,” and that “marginal costs do not differ” with and without increased battery life because in this case the accused feature that causes increased battery life “is software-based, rendering its marginal cost of distribution to consumers zero or close to zero.” *Id.* ¶139. He further used the real-world average selling price and number of units sold in his competition model. *Id.* ¶144. Because he “included 5% and 10% increase in battery life as levels in the conjoint study, [he could] estimate a linear regression model to derive incremental profits per units for other improvements than 5% and 10%,” with “separate regressions for the median and the upper and lower bounds of the [95%] confidence interval.” *Id.* ¶146. The results of his incremental profit calculations are in Table 7. *Id.* ¶155.

V. ARGUMENT

A. Conjoint survey data can serve as a basis for subsequent economic calculations, including incremental profit derived from increased battery life.

Samsung claims, as a general matter, conjoint survey data cannot be used in the way Dr. Groehn has used it—to estimate the economic value of a product attribute or feature. Mot. at 12-14. But various courts held that conjoint survey data can be analyzed and used in various economic analyses to estimate the economic value of attributes/features tested in the survey. *See, e.g., Earl*, 2021 WL 3140545, at *5 (“Conjoint analysis has been used for decades as a way of estimating the market’s willingness to pay for various product features.”) (cleaned up); *Odyssey*, 2016 WL 7644790, at *9 (in a case where the attribute of interest was mobile fephone upload speed, holding

that “a conjoint analysis is a generally accepted method for valuing the individual characteristics of a product”); *see also Estech Sys. IP, LLC v. Carvana LLC*, No. 2:21-cv-00482-JRG-RSP, 2023 WL 2934920, at *1 (E.D. Tex. Apr. 13, 2023). Samsung provides no authority to the contrary.

Rather than addressing the actual case law, Samsung resorts to mischaracterizing both the cited literature and Dr. Groehn’s analysis. Samsung first states “Dr. Groehn’s own sources state unequivocally, ... ‘[c]onjoint survey data, alone, cannot be used to compute market equilibrium outcomes such as market prices.” Mot. at 13 (quoting Ex. D (Allenby Article) at -3439) (emphasis added). Samsung also points out Dr. Allenby states “[a] monetary conversion of the *part-worth* of a product feature ... is not sufficient for measuring the economic value because it does not consider the effects of competitors in the market.” *Id.* (citing Ex. D at -3447) (emphasis added).

But as detailed above, Dr. Groehn is not using conjoint survey data alone or relying simply on the part-worths he calculated to compute a measure of economic value of increased battery life. Rather, he uses the survey data to compute part-worths (*see supra* § IV.C), and then applies a competition model that uses the real-world average selling price and the real-world number of units, as well as the well-supported assumptions that Samsung prices its products to maximize profits, that marginal cost remains constant across different levels of battery life, and that there is no difference in the marginal costs¹ for different levels of battery life (*see supra* § IV.D). This is consistent with the Allenby Article, which describes numerous ways that economic value can be estimated using conjoint survey data, including an economic price premium model, which like Dr.

¹ Samsung claims that “[h]is analysis does not account for costs or competition” (Mot. at 13), but his analysis on its face demonstrates this is not true. As for costs, as explained here and in Section IV.D, Dr. Groehn made two well-supported assumptions concerning costs in his model. *See also* Ex. A ¶¶139-140 (describing these assumptions and their bases as well as deriving an equation for “MC,” marginal costs, for use in his analysis). As for competition, he expressly used a monopolistic competition model, and derived profit functions for use in his model that are consistent with monopolistic competition (a market structure in which numerous companies offer similar products). *Id.* ¶138.

Groehn’s competition model “allows for competitive price reaction to a feature enhancement or introduction” and requires assuming “[c]onstant marginal cost for the product.” Ex. D at -3450-51. Indeed, the *Earl* court rejected a *Daubert* challenge to Dr. Allenby’s application of economic models to conjoint survey data “to infer, or estimate, the value respondents ascribe to the surveyed features.” 2021 WL 3140545, *4-5, 7-8 (denying motion to exclude Dr. Allenby’s application of an equilibrium price and share premium model to conjoint survey data) (internal quotation marks omitted).

The only case Samsung cites in support of its argument likewise provides no support for it. Mot. at 13 n.3. In *Visteon Global Technologies, Inc. v. Garmin International, Inc.*, the expert did exactly what Dr. Allenby warns against—he “used the partworths on price and the attributes to estimate the extent of the tradeoffs for each of the patented features, resulting in an ‘economic value.’” No. 10-cv-10578, 2016 WL 5956325, at *4 (E.D. Mich. Oct. 4, 2016). As a result, “the only ‘value’ expressed in [his] economic values is the relative value of the four asserted patent features to one another.” *Id.* at *6, 17. He also admitted “his economic values do not represent the actual amounts that consumers would be willing to pay for inclusion of the patented features in a competitive market” and he “did not attempt to determine a real world price for the four patented features.” *Id.* at *5-7. In addition, Visteon’s damages expert, who applied these part-worth-based calculations to profit margin in a reasonable royalty calculation, “conceded that none of his calculations undertook to determine the price that consumers would pay for the individual technology provided by the infringing features.” *Id.* at *7-11. The court excluded the damages expert’s opinion as “speculative, completely untethered from any quantitative market evidence,” and excluded the survey expert since he lacked any other relevance to the case. *Id.* at *14-19.

For the reasons discussed above, Dr. Groehn’s approach is readily distinguishable from

that in *Visteon*. He did not estimate relative values of features using conjoint survey data and part-worths; rather, he applied a competition model that used the survey data in combination with real-world data to estimate the incremental profit Samsung would experience in the marketplace at different levels of increased battery life. *See supra* §§ IV.C-D.

Samsung also criticizes Dr. Groehn for “testing less than all of the features that are known to motivate customer choice in the smartphone market including numerous non-patented features.” Mot. at 13-14. But it is well known that a conjoint survey need not include all possible attributes and that it is in fact necessary to limit the number of attributes to avoid overwhelming the survey taker. Ex. A ¶¶32-33 (choosing to test seven attributes based on literature guidance); *see also Johnson v. Glock, Inc.*, No. 20-cv-008807, 2024 WL 4479863, at *16 (N.D. Cal. Sept. 30, 2024) (denying motion to exclude conjoint survey expert and noting that defendant “may challenge [the expert] at trial on why he included or excluded different attributes”).

Finally, Samsung criticizes Dr. Groehn, without explanation, for “combining brand with model” and “offering only one flagship per brand.” Mot. at 14. Courts have specifically rejected arguments that a survey should be excluded because it “focuses on high-end smartphones” (*Odyssey*, 2016 WL 7644790, at *10) or “questioned only ‘mid/high tier smartphone owners’” (*Fujifilm Corp. v. Motorola Mobility LLC*, No. 12-cv-03487, 2015 WL 1737951, at *5 (N.D. Cal. Apr. 8, 2015)). Like many of Samsung’s complaints concerning Dr. Groehn’s survey, both of these attribute-related issues go to weight rather than admissibility, and can be addressed via cross-examination at trial. *See, e.g., Earl*, 2021 WL 3140545, at *7; *Odyssey*, 2016 WL 7644790, at *10.

B. Given his goals and the subsequent use of data resulting from his survey and analyses, Dr. Groehn’s survey is sufficiently tied to the facts of this case.

Samsung also asks the Court to strike Dr. Groehn’s opinions because “he repurposed a study he performed for a different case involving entirely different patents and technology.” Mot.

at 1. As an initial matter, Samsung cites no authority supporting the proposition that reliance on the same survey in multiple cases is disallowed under *Daubert*. Nor would such a rule make any sense. Rather, what matters is whether the survey and analysis of it is sufficiently tied to the case at hand. Here the survey and analysis are.

Although the accused features in this case relate to push notifications, a benefit of the specific way in which those push notifications operate is to provide battery savings. Ex. 2 (de la Iglesia Report) ¶1220. (“The claimed inventions provide end-user devices with event-driven notifications in a *battery efficient* and secure way.”) (emphasis added); *id.* ¶1227 (“[T]his is advantageous to Samsung. Samsung offers a better device that supports fresh updates with *minimal impacts on battery life*.”) (emphasis added); *see also generally id.* ¶¶1220-1239. Indeed, Mr. de la Iglesia performed a detailed technical analysis to estimate the amount of improvement in battery life specifically attributable to the accused push-notifications-related functionality. *See id.* ¶¶1240-1261 And Dr. Groehn’s survey and analysis evaluated the economic benefit to Samsung of those levels of improvement in battery life so that Mr. Dell could take that into account in his determination of a reasonable royalty.

It is true that Dr. Groehn did not analyze anything related to push notifications. But he had no need to do so. Rather, because a technical benefit of the patents-in-suit is improved battery life, the goal of his survey was “to measure the economic value of increased battery life in mobile phones designed and manufactured by [Samsung].” Ex. A ¶9; *see* Ex. 4 (Oct. 18, 2024 Groehn Depo.) at 70:16-71:4 (“[M]y understanding is that [the] push notifications, the way they are processed, leaning on the patent, there is less strain on the battery, and therefore, an enhancement in battery life. So the attribute of interest for me is battery life.”) *see also id.* at 29:7-13, 29:24-30:6, 54:12-17. He measures the economic value of increased battery life by conducting surveys

and analyses to arrive at estimated incremental profits per unit Samsung would experience with increases of battery life from 2-10%. *See supra* § IV; Ex. A ¶155 (Table 7). And then Mr. Dell used Dr. Groehn’s incremental profit calculations, in combination with Dr. de la Iglesia’s technical analysis estimating improvement in battery life specifically attributable to the accused features, to arrive at the incremental profit per unit directly attributable to the patented contribution to battery life (Ex. 3 (Dell Report) ¶¶312-313) and to go on to further calculate a per unit reasonable royalty rate (*see id.* ¶¶314-318, 349-362, Attachment 4).

Samsung’s citation to *VirnetX Inc. v. Cisco Systems, Inc.*, 767 F.3d 1308, 1327 (Fed. Cir. 2014) is thus inapposite, as Dr. Groehn did not perform any reasonable royalty calculations. *See* Mot. at 14; Ex. 4 at 13:8-10. And in any event, “[w]hile [Samsung] seem[s] to argue that reasonable royalty estimation methodology must be *exactly* tied to the facts of the case, the methodology need only be *sufficiently* tied to the facts of the case.” *Estech*, 2023 WL 2934920, at *3 (emphases in original) (denying motion to exclude conjoint survey expert because his survey focused on the demand for the benefits provided by the patents in suit and so was “sufficiently tied the features of the Asserted Patents to the features analyzed in his study”).

Samsung’s other cited authorities are also distinguishable. *See* Mot. at 8-9. For example, *Apple, Inc. v. Samsung Electronics Co.* actually provides support for Headwater’s opposition, as the court rejected a *Daubert* challenge similar to what *Samsung* presents here. No. 12-cv-00630, 2014 WL 794328 (N.D. Cal. Feb. 25, 2014). In *Apple*, Samsung contended Apple’s expert’s framing of the technical benefits of a patent claim was overbroad. *Id.* at *18-19. The court rejected that argument because “[i]n light of the purpose for which Apple will use this survey evidence at trial, the Court concludes that Dr. Hauser’s description of [the patent claim] is sufficiently tailored to the requirements of that claim.” *Id.* at *19. The Court should hold the same here concerning Dr.

Groehn.

And in *Fractus, S.A. v. Samsung*, the court excluded survey evidence evaluating consumer preferences concerning internal antennas, rather than the specific type of internal antennas of the asserted claims, because “[a]llowing the jury to hear such evidence not tied to the claimed invention risks compensation for infringement [that] punishes beyond the reach of the statute.” No. 6:09-cv-208-LED-JDL, 2011 WL 7563820, at *1 (E.D. Tex. Apr. 29, 2011). There is no such danger here because the jury will not be confused about the role of Dr. Groehn’s survey and calculations. Dr. Groehn estimated the economic value of the benefit of the patented inventions, such that Mr. Dell could then combine Dr. Groehn’s results with technical analysis that focused specifically on the accused features to calculate an apportioned per unit royalty rate.

Finally, *Unwired Planet, LLC v. Apple Inc.* bears no relevance to this case. In that case, one of the survey expert’s opinions was excluded because description of the patented benefits was rooted in a rejected claim construction. No. 14-cv-04134, 2017 WL 589195, at *1 (N.D. Cal. Feb. 14, 2017). That is not applicable here. Moreover, the court rejected *Daubert* challenges to other opinions, even though the survey “described the consumer-facing benefit of the invention in terms that clearly exceed its incremental improvement over the prior art,” because “[a]lthough these survey questions perhaps skirt the line, the fundamental problem—their high level of abstraction—doesn’t render the survey results entirely unhelpful in assigning value to improvements in the surveyed areas.” *Id.*

C. Dr. Groehn’s survey adequately defined “battery life.”

Dr. Groehn defined “battery life” in his survey as “the length in time in hours that a device can operate under battery power after being fully charged,” and set forth three levels: (1) “Standard battery life”; (2) “Battery life increased by 5% under normal usage”; and (3) “Battery life increased

by 10% under normal usage.” Ex. A ¶93 (Figure 17). Samsung takes issue with the fact “standard battery life” had “a different perception of ‘standard’ for each survey taker.” Mot. at 10. Samsung argues the survey needed to define “standard battery life” in “numbers of hours, or minutes, or days, of battery life.” *Id.* But this makes little sense because it is critical the survey taker consider what standard battery life is *for them* for the results to be meaningful. What standard battery life means for a given respondent “depends on the situation of each individual respondent. ... Each respondent will experience battery life in a different way depending on what apps they are using on their phone, whether they use the processor for intensive apps like video games, how far away from the cell phone tower they are or what the cli[mate] is where they are, whether they are in an air conditioned room or outside. So there are many factors that will affect the battery life that every single respondent will experience.” Ex. 1 at 172:4-18; *see also id.* at 175:22-176:8, 178:1-20, 179:6-181:5. This is why Dr. Groehn “d[id]n’t need to assign a value in hours to standard battery life. What we are interested in is what the impact of improving that battery life, whatever it is, by 5 or 10 percent.” *Id.* at 175:12-20. Samsung provides no cognizable reason why Dr. Groehn’s approach renders his survey unreliable. Samsung also offers no evidence survey respondents found the question unclear, and in any event, “the clarity of the survey questionnaire is a question of fact, best resolved at trial through cross examination.” *Odyssey*, 2016 WL 7644790, at *10.

Samsung also claims “Dr. Groehn alleges that the difference between a 5% increase in battery life versus a 10% increase is not linear, and would instead vary wildly depending on ‘standard’ battery life.” Mot. at 11 (citing Ex. 1 at 172:04-176:08). Nothing in this cited portion of Dr. Groehn’s deposition transcript supports this statement in any way. Samsung then seems to take issue with the fact that there is an estimated incremental profit of at least \$ [REDACTED] for a 5% increase in battery life, and an additional 5% increase in battery life (10% increase from standard overall)

yields at least an additional \$ [REDACTED] profit,² and criticizes Dr. Groehn for “not explain[ing] why he thinks consumers are willing to pay more for the second 5% increase for the very same phone than the first 5% increase.” *Id.* at 12. Samsung offers no reasoning for why such an explanation is necessary. Samsung also offers no explanation for why it believes it is not conceivable that survey respondents simply found an increase from 5% higher than standard to 10% higher than standard, as opposed to an increase from standard to 5% higher than standard, to be approximately \$ [REDACTED] more valuable. Put simply, Dr. Groehn conducted a consumer survey, and that was the result.

VI. CONCLUSION

For the foregoing reasons, the Court should deny Samsung’s motion in its entirety.

Dated: November 1, 2024

Respectfully submitted,

/s/ Amy Hayden

Marc Fenster
CA State Bar No. 181067
mfenster@raklaw.com
Reza Mirzaie
CA State Bar No. 246953
rmirzaie@raklaw.com
Brian Ledahl
CA State Bar No. 186579
bledahl@raklaw.com
Ben Wang
CA State Bar No. 228712
bwang@raklaw.com
Adam Hoffman
CA State Bar No. 218740
Email: ahoffman@raklaw.com
Dale Chang
CA State Bar No. 248657

² Samsung claims that Dr. Groehn’s analysis shows that an increase from 5% more battery life than standard to 10% more battery life than standard can yield an additional profit of up to \$ [REDACTED], which Samsung obtained by: “\$ [REDACTED] minus \$ [REDACTED].” Mot. at 12. Samsung has gotten the math wrong. It has taken the \$ [REDACTED] from the high end of the confidence interval, and the \$ [REDACTED] from the low end of the conference interval, and then subtracted them. Ex. A ¶155 (Table 7). To obtain the proper profit differential for the high end of the confidence interval, Samsung needed to take both numbers from the high end rather than “mixing and matching.” Doing so yields an additional profit of only \$ [REDACTED] (\$ [REDACTED] minus \$ [REDACTED]), very similar to the \$ [REDACTED] for the low end of the confidence interval.

dchang@raklaw.com
Paul Kroeger
CA State Bar No. 229074
pkroeger@raklaw.com
Neil A. Rubin
CA State Bar No. 250761
nrubin@raklaw.com
Kristopher Davis
CA State Bar No. 329627
kdavis@raklaw.com
James S. Tsuei
CA State Bar No. 285530
jtsuei@raklaw.com
Philip Wang
CA State Bar No. 262239
pwang@raklaw.com
Amy Hayden
CA State Bar No. 287026
ahayden@raklaw.com
James Milkey
CA State Bar No. 281283
Email: jmilkey@raklaw.com
Jason M. Wietholter
CA State Bar No. 337139
jwietholter@raklaw.com
James Pickens
CA State Bar No. 307474
Email: jpickens@raklaw.com
Qi (Peter) Tong
TX State Bar No. 24119042
Email: ptong@raklaw.com
RUSS AUGUST & KABAT
12424 Wilshire Blvd. 12th Fl.
Los Angeles, CA 90025
Telephone: 310-826-7474

Andrea L. Fair
TX State Bar No. 24078488
MILLER FAIR HENRY PLLC
1507 Bill Owens Parkway
Longview, Texas 75604 Telephone:
903-757-6400
andrea@millerfairhenry.com

ATTORNEYS FOR PLAINTIFF,
Headwater Research LLC

CERTIFICATE OF SERVICE

I hereby certify that on November 4, 2024, I electronically filed the foregoing document with the Clerk of the Court for the Eastern District of Texas using the ECF System under seal, and served defendants with a copy via electronic mail.

/s/ Amy E. Hayden

Amy E. Hayden

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]